The Study on the Inflorescence Differentiation of *Bromus ciliatus* L. cv. Xilinguole

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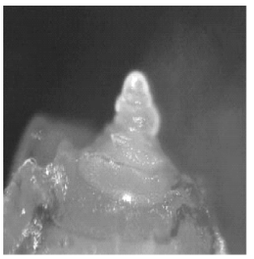
Key words : *Bromus ciliatus* L .cv . Xilinguole ,inflorescence differentiation , growth cone

Introduction *Bromus ciliatus* L .cv Xilinguole is a good and important forage . In this research the inflorescence differentiation of the varieties and the difference of three lines (9701 ,9708 , 9714) which are chosen from the *Bromus ciliatus* L .cv Xilinguole were studied . It provides the theoretical basis for production and reasonable utilization of *Bromus ciliatus* L .cv . Xilinguole . It is also important for breeding the new varieties .

Materials and methods The materials were planted in the Experimental Station of Inner Mongolia Agricultural University .
The differentiation process of nutrition growth cone and reproductive growth cone 50 plants which have the similar heftiness and height with *Bromus ciliatus* L .cv Xilinguole were chosen from first ten days of April . Observe the plants every one day . We should observe from the buds of tillering , when the spikelet pumped , and take the buds observed .When the inflorescence can be seen , paying attention to the inflorescence . After heading , taking the top of spikelet studied . When floret begins developing ,taking the first and second spikelet studied . Take photos by Olympus .

Comparis inflorescence differentiation of different lines of *Bromus ciliatus* L . Take three lines of 9701 , 9708 , 9714 go public . Observing anatomy and take photo the plants every two days .

Results Tip meristem is Hemisphere ,when it is at the stage of the vegetative growth phase . New leaf primordium produces from the basal of growth cone continually . The plant which is at this stage has 1-3 leaves . The growth cone elongate . ,when it is at the stage of the single edge phase . Bract primordium can be found . The plant which is at this stage has 4-5 leaves . Spikelet primordium produces from the leaf axil of Bract primordium , when it is at the stage of the double edge phase . Spikelet primordium and Bract primordium compose the double edge , spikelet primordium produces top-down process . The plant which is at this stage often has 6-8 leaves . At the stage of spikelet differentiation stage , floret primordium produces from the leaf axil of the lemma primordium . It starts from below . The plant which is at this stage has more than 8 leaves . The stamen primordial differentiated earlier than the pistil primordial , when it is at the stage of floret differentiation .The floret which is at the bottom develops faster than the top one . Stamen and pistil develop and maturate at the same time .



Vegetative growth phase

Double edge phase Spikelet

Spikelet differentiation stage

Floret differentiation stage

Conclusions The growth cone of these three kinds is hemispherical , when they are at the tillering stage . The kind of 9714 whose processes of growth cone is more obviously than the other two kinds , when it is at the booting stage . The kind of 9714 develops fast , when it is at the previous booting stage , for it stays longer at the single edge phase and double edge phase . At the floret differentiation stage , stamen of 9708 is more mature , at the same time lemmas of 9714 are lagging growing .

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